

WHAT IS CLAIMED IS:

71
Sub 2
1. An image retrieval information storing apparatus, comprising:
a coding information reading unit reading prescribed coding
information which will be information representing frame feature from
coded image data;

5 a frame feature value generating unit connected to said coding
information reading unit, and generating a frame feature value which is a
numerical representation of the frame feature, based on said coding
information; and

10 a frame feature value storing unit connected to said frame feature
value generating unit, and storing said frame feature value in
correspondence with each frame of said image data.

2. The image retrieval information storing apparatus according to
claim 1, further comprising:

5 an index information generating unit connected to said frame feature
value generating unit, determining a featured frame among said image
data based on said frame feature value, and generating index information
which is positional information of said featured frame; and

an index information storing unit connected to said index
information generating unit and storing said index information.

3. The image retrieval information storing apparatus according to
claim 2, wherein

said coding information includes prediction mode information and
motion vector information; and

5 said frame feature value generating unit includes
a prediction mode counting unit connected to said coding information
reading unit, receiving said prediction mode information and counting
number of blocks coded in accordance with respective prediction methods
for each frame,

10 a frequency information converting unit connected to said prediction

mode counting unit and outputting prediction mode frame feature value which is a numerical representation of frame feature, based on the number of blocks for each prediction method,

15 a motion vector statistic calculating unit connected to said coding information reading unit, and calculating statistics of said motion vector based on said prediction mode information, and

20 a statistic information converting unit connected to said prediction mode counting unit and said motion vector statistic calculating unit, and outputting a motion vector frame feature value which is a numerical representation of frame feature, base on outputs of said prediction mode counting unit and said motion vector statistic calculating unit.

4. The image retrieving information storing apparatus according to claim 1, wherein said coding information includes prediction mode information and motion vector information; and

said frame feature value generating unit includes

5 a prediction mode counting unit connected to said coding information reading unit, receiving said prediction mode information and counting number of blocks coded in accordance with respective prediction methods for each frame,

10 a frequency information converting unit connected to said prediction mode counting unit and outputting a prediction mode frame feature value which is a numerical representation of frame feature, based on the number of blocks for each prediction method,

15 a motion vector statistic calculating unit connected to said coding information reading unit, and calculating said motion vector statistics based on said prediction mode information, and

20 a statistic information converting unit connected to said prediction mode counting unit and said motion vector statistic calculating unit, and outputting a motion vector frame feature value which is a numerical representation of frame feature, based on outputs of said prediction mode counting unit and said motion vector statistic calculating unit.

5. An image retrieval information storing apparatus, comprising:
a coding information reading unit reading prescribed coding
information which will be information representing frame feature from
coded image data; and

5 a coding information storing unit connected to said coding
information reading unit and storing said coding information in
correspondence with each frame of said image data.

6. The image retrieval information storing apparatus according to
claim 5, further comprising:

5 a frame feature value generating unit connected to said coding
information reading unit, and generating a frame feature value which is a
numerical representation of frame feature based on said coding
information;

10 an index information generating unit connected to said frame feature
value generating unit, determining a featured frame among said image
data based on said frame feature value, and generating index information
which is positional information of said featured frame; and

an index information storing unit connected to said index
information generating unit and storing said index information.

7. The image retrieval information storing apparatus according to
claim 6, wherein

said coding information includes prediction mode information and
motion vector information; and

5 said frame feature value generating unit includes

a prediction mode counting unit connected to said coding information
reading unit, receiving said prediction mode information and counting
number of blocks coded in accordance with respective prediction methods
for each frame,

10 a frequency information converting unit connected to said prediction
mode counting unit and outputting a prediction mode frame feature value
which is a numerical representation of frame feature based on the number

of blocks for each prediction method,

a motion vector statistic calculating unit connected to said coding information reading unit and calculating statistics of said motion vector based on said prediction mode information, and

a statistic information converting unit connected to said prediction mode counting unit and said motion vector statistic calculating unit, and outputting a motion vector frame feature value which is a numerical representation of frame feature based on outputs of said prediction mode counting unit and said motion vector statistic calculating unit.

8. An image retrieval information storing apparatus, comprising:
a coding information reading unit reading prescribed coding information which will be information representing frame feature from coded image data;

a frame feature value generating unit connected to said coding information reading unit and generating a frame feature value which is a numerical representation of frame feature based on said coding information;

a first storing unit connected to said coding information reading unit and to said frame feature value generating unit, and storing said coding information and said frame feature value in correspondence with each frame of said image data.

9. The image retrieval information storing apparatus according to claim 8, further comprising:

an index information generating unit connected to said frame feature value generating unit, determining a featured frame among said image data based on frame feature value and generating index information which is positional information of said featured frame;

wherein

said first storing unit includes a second storing unit connected to said coding information reading unit, said frame feature value generating unit and said index information generating unit, and storing said coding

information and said frame feature value in correspondence with each frame of said image data and said index information.

10. The image retrieval information storing apparatus according to claim 9, wherein

said second storing unit includes

5 a storing information selecting unit connected to said coding information reading unit, said frame feature value generating unit and said index information generating unit, and selecting and outputting any of said coding information, said frame feature value and said index information,

10 an index information storing unit connected to said storing information selecting unit and storing said index information,

a frame feature value storing unit connected to said storing information selecting unit and storing said frame feature value in correspondence with each frame of said image data, and

15 a coding information storing unit connected to said storing information selecting unit and storing said coding information in correspondence with each frame of said image data.

11. The image retrieval information storing apparatus according to claim 8, wherein

said first storing unit includes

5 a storing information selecting unit connected to said coding information reading unit and said frame feature value generating unit, and selecting and outputting any of said coding information and said frame feature value,

10 a frame feature value storing unit connected said storing information selecting unit and storing said frame feature value in correspondence with each frame of said image data, and

a coding information storing unit connected said storing information selecting unit and storing said coding information in correspondence with each frame of said image data.

12. The image retrieval information storing apparatus according to claim 10, wherein

5 said coding information includes prediction mode information and motion vector information; and

said frame feature value generating unit includes

10 a prediction mode counting unit connected to said coding information reading unit, receiving said prediction mode information and counting number of blocks coded in accordance with respective prediction methods for each frame,

a frequency information converting unit connected to said prediction mode counting unit and outputting a prediction mode frame feature value which is a numerical representation of frame feature based on the number of the blocks for each prediction method,

15 a motion vector statistic calculating unit connected to said coding information reading unit, and calculating statistics of said motion vector based on prediction mode information, and

20 a statistic information converting unit connected to said prediction mode counting unit and said motion vector statistic calculating unit, and outputting a motion vector frame feature value which is a numerical representation of frame feature, based on outputs of said prediction mode counting unit and said motion vector statistic calculating unit.

13. The image retrieval information storing apparatus according to frame 9, wherein

said coding information includes prediction mode information and motion vector information; and

5 said frame feature value generating unit includes

a prediction mode counting unit connected to said coding information reading unit, receiving said prediction mode information and counting number of blocks coded in accordance with respective prediction methods for each frame,

10 a frequency information converting unit connected to said prediction

mode counting unit and outputting a prediction mode frame feature value which is a numerical representation of frame feature based on the number of the blocks for each prediction method,

15 a motion vector statistic calculating unit connected to said coding information reading unit, and calculating statistics of said motion vector based on prediction mode information, and

20 a statistic information converting unit connected to said prediction mode counting unit and said motion vector statistic calculating unit, and outputting a motion vector frame feature value which is a numerical representation of frame feature, based on outputs of said prediction mode counting unit and said motion vector statistic calculating unit.

14. The image retrieval information storing apparatus according to claim 8, wherein

said coding information includes prediction mode information and motion vector information; and

5 said frame feature value generating unit includes

a prediction mode counting unit connected to said coding information reading unit, receiving said prediction mode information and counting number of blocks coded in accordance with respective prediction methods for each frame,

10 a frequency information converting unit connected to said prediction mode counting unit and outputting a prediction mode frame feature value which is a numerical representation of frame feature based on the number of the blocks for each prediction method,

15 a motion vector statistic calculating unit connected to said coding information reading unit, and calculating statistics of said motion vector based on prediction mode information, and

20 a statistic information converting unit connected to said prediction mode counting unit and said motion vector statistic calculating unit, and outputting a motion vector frame feature value which is a numerical representation of frame feature, based on outputs of said prediction mode counting unit and said motion vector statistic calculating unit.

sub 01

15. An image retrieving apparatus, comprising:
 an index information generating unit receiving a frame feature value which is a numerical representation of frame feature corresponding to each frame of coded image data, determining a featured frame among said image data based on said frame feature value in accordance with a request for extracting a featured frame, and generating index information which is positional information of said featured frame; and
 a first image retrieval executing unit connected to said index information generating unit, transmitting said request for extracting a featured frame to said index information generating unit, receiving said index information from said index information generating unit, receiving said image data from outside, and outputting a frame specified based on said index information.

16. The image retrieving apparatus to claim 15, wherein
 said first image retrieval executing unit includes a second image retrieval executing unit connected to said index information generating unit, transmitting said request for extracting a featured frame to said index information generating unit, receiving said index information from said index information generating unit, receiving said image data and index information from outside, and outputting a frame specified based on said index information received from said index information generating unit and from outside.

sub 03

17. The image retrieving apparatus according to claim 16, wherein
 said index information generating unit includes
 a frame determining unit receiving said frame feature value and said request for extracting a featured frame, comparing said frame feature value and a threshold value in accordance with said request for extracting a featured frame, and determining said featured frame, and
 an index generating unit connected to said frame determining unit and generating index information which is positional information of said featured frame.

18. The image retrieving apparatus according to claim 15, wherein said index information generating unit includes

5 a frame determining unit receiving said frame feature value and said request for extracting a featured frame, comparing said frame feature value and a threshold value in accordance with said request for extracting a featured frame, and determining said featured frame, and
an index generating unit connected to said frame determining unit and generating index information which is positional information of said featured frame.

19. An image retrieving apparatus, comprising:

5 a frame feature value generating unit receiving prescribed coding information included in coded image data which will be information representing frame feature, and generating a frame feature value which is a numerical representation of the frame feature based on said coding information, in accordance with a request for extracting the frame feature value;

10 an index information generating unit connected to said frame feature value generating unit, receiving said frame feature value from said frame feature value generating unit, determining a featured frame among said image data based on said frame feature value in accordance with a request for extracting a featured frame, and generating index information which is positional information of said featured frame, and

15 a first image retrieval executing unit connected to said frame feature value generating unit and said index information generating unit, transmitting said request for extracting a frame feature value to said frame feature value generating unit, transmitting said request for extracting a featured frame to said index information generating unit, receiving said index information from said index information generating unit, receiving
20 said image data from outside, and outputting a frame specified based on said index information.

20. The image retrieving apparatus according to claim 19, wherein

5 said first image retrieval executing unit includes a second image
retrieval executing unit connected to said frame feature value generating
unit and said index information generating unit, transmitting said request
for extracting a frame feature value to said frame feature value generating
10 unit, transmitting said request for extracting a featured frame to said index
information generating unit, receiving said index information from said
index information generating unit and from outside, receiving said image
data from outside, and outputting a frame specified based on said index
information.

21. The image retrieving apparatus according to claim 20, wherein
said index information generating unit includes
a frame determining unit receiving said frame feature value and said
request for extracting a featured frame, comparing said frame feature value
5 and a threshold value in accordance with said request for extracting a
featured frame, and determining said featured frame, and
an index generating unit connected to said frame determining unit
and generating index information which is positional information of said
featured frame.

22. The image retrieving apparatus according to claim 19, wherein
said index information generating unit includes
a frame determining unit receiving said frame feature value and said
request for extracting a featured frame, comparing said frame feature value
5 and a threshold value in accordance with said request for extracting a
featured frame, and determining said featured frame, and
an index generating unit connected to said frame determining unit
and generating index information which is positional information of said
featured frame.

23. An image retrieving apparatus, comprising:
a frame feature value generating unit receiving prescribed coding
information included in coded image data, which will be information

representing frame feature, and generating a frame feature value which is a numerical representation of the frame feature based on said coding information, in accordance with a request for extracting a frame feature value;

an index information generating unit connected to said frame feature value generating unit, receiving said frame feature value from said frame feature value generating unit and from outside, determining a featured frame among said image data based on said frame feature value in accordance with a request for extracting a featured frame, and generating index information which is positional information of said featured frame; and

a first image retrieval executing unit connected to said frame feature value generating unit and said index information generating unit, transmitting said request for extracting a frame feature value to said frame feature value generating unit, transmitting said request for extracting a featured frame to said index information generating unit, receiving said index information from said index information generating unit, receiving said image data from outside, and outputting a frame specified by said index information.

24. The image retrieving apparatus according to claim 23, wherein said first image retrieval executing unit includes a second image retrieval executing unit connected to said frame feature value generating unit and said index information generating unit, transmitting said request for extracting a frame feature value to said frame feature value generating unit, transmitting said request for extracting a featured frame to said index information generating unit, receiving said index information from said index information generating unit and from outside, receiving said image data from outside, and outputting a frame specified based on said index information.

25. The image retrieving apparatus according to claim 24, wherein said index information generating unit includes

a frame determining unit receiving said frame feature value and said request for extracting a featured frame, comparing said frame feature value and a threshold value in accordance with said request for extracting a featured frame, and determining said featured frame, and

- 5 an index generating unit connected to said frame determining unit and generating index information which is positional information of said featured frame.

26. The image retrieving apparatus according to claim 23, wherein said index information generating unit includes

- 5 a frame determining unit receiving said frame feature value and said request for extracting a featured frame, comparing said frame feature value and a threshold value in accordance with said request for extracting a featured frame, and determining said featured frame, and

an index generating unit connected to said frame determining unit and generating index information which is positional information of said featured frame.